

PACSIN1

Cat.No. 196 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 up to 1 : 1000 IHC: not tested yet IHC-P: not tested yet
Immunogen	Recombinant protein corresponding to AA 293 to 384 from mouse PACSIN1 (UniProt Id: Q61644)
Reactivity	Reacts with: rat (Q9Z0W5), mouse (Q61644). Other species not tested yet.
Matching control	196-0P

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

This protein has been described as **PACSIN 1** (for **PKC** and **CK2** substrate in neurons) and **syndapin 1** (**synaptic, dynamin-associated protein I**). It is a multidomain phospho-protein that interacts via its SH3 domain with dynamin 1, synaptojanin, synapsin and N-WASP. Since N-WASP is an activator of the Arp2/3 complex, syndapin may link membrane trafficking and the actin cytoskeleton. Up to now, 3 isoforms have been described. Syndapin 1 shows a neuronal, syndapin 3 a muscular and syndapin 2 an ubiquitous expression profile.

Selected References for 196 002

A local, periaxonal zone endocytic machinery at photoreceptor synapses in close vicinity to synaptic ribbons.
Wahl S, Katiyar R, Schmitz F
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3325: 10278-300. . **WB, ICC**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **ICC, IHC; tested species: mouse, rat**

A novel glycine receptor variant with startle disease affects syndapin I and glycinergic inhibition.
Langlhofer G, Schaefer N, Maric HM, Keramidas A, Zhang Y, Baumann P, Blum R, Breitingner U, Strømgaard K, Schlosser A, Kessels MM, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2020) : . . **WB, ICC; tested species: human, mouse**

Native KCC2 interactome reveals PACSIN1 as a critical regulator of synaptic inhibition.
Mahadevan V, Khademullah CS, Dargaei Z, Chevrier J, Uvarov P, Kwan J, Bagshaw RD, Pawson T, Emili A, De Koninck Y, Anggono V, et al.
eLife (2017) 6: . . **IP; tested species: mouse**

Dynamin is primed at endocytic sites for ultrafast endocytosis.
Imoto Y, Raychaudhuri S, Ma Y, Fenske P, Sandoval E, Itoh K, Blumrich EM, Matsubayashi HT, Mamer L, Zarebidaki F, Söhl-Kielczynski B, et al.
Neuron (2022) 11017: 2815-2835.e13. . **ICC; tested species: mouse**

Synaptic AP2 CCV life cycle regulation by the Eps15, ITSN1, Sgip1/AP2, synaptojanin1 interactome.
Mishra R, Sengül GF, Candiello E, Schu P
Scientific reports (2021) 11: 8007. . **WB; tested species: mouse**

Selected General References

Syndapin I is the phosphorylation-regulated dynamin I partner in synaptic vesicle endocytosis.
Anggono V et al. Nat. Neurosci. (2006) PubMed:16648848

Syndapin oligomers interconnect the machineries for endocytic vesicle formation and actin polymerization.
Kessels MM et al. J. Biol. Chem. (2006) PubMed:16540475

The syndapin protein family: linking membrane trafficking with the cytoskeleton.
Kessels MM et al. J. Cell. Sci. (2004) PubMed:15226389

All three PACSIN isoforms bind to endocytic proteins and inhibit endocytosis.
Modregger J et al. J. Cell. Sci. (2000) PubMed:11082044

Syndapin isoforms participate in receptor-mediated endocytosis and actin organization.
Qualmann B et al. J. Cell Biol. (2000) PubMed:10704453

Access the online factsheet including applicable protocols at <https://sysy.com/product/196002> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.